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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,155

12/01/2003

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EXAMINER

MEHTA, PARIKHA SOLANKI

ART UNIT

PAPER NUMBER

3737

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/725,155	Applicant(s) DAMADIAN, RAYMOND V.	
	Examiner PARIKHA S. MEHTA	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-8 are objected to because of the following informalities:
Claim 1 recites “said elevator frame” without proper antecedent basis”.
Appropriate correction is required.

Claim Rejections - 35 USC § 103

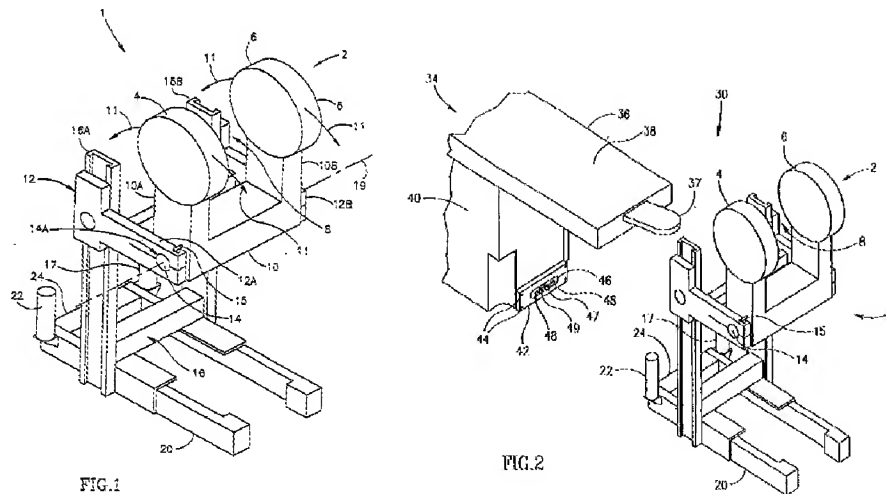
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk (US Pre-Grant Publication No. 2002/0123681), hereinafter Zuk (‘681), previously made of record, in view of Weber (US Patent No. 3,806,109), hereinafter Weber (‘109).

Regarding claims 1, 3-7, 9 and 12-14, Zuk (‘681) teaches a U-shaped superconducting magnet **10** having a gap for receiving a patient, and means **17** for moving the magnet so that a portion of a region of interest of the patient can be imaged, the means comprising an electrical motor which may be connected to a jack for lowering or raising the magnet (Fig. 1, ¶ 0019-21, ¶ 0065). Zuk (‘681) shows a patient support platform **36** positioned within the gap for supporting the patient (Fig. 2). The patient support platform 36 can be moved in any direction in three dimensional space (e.g., by sliding or lifting the entire system), and therefore it has three degrees of motion. Zuk (‘681) also provides vertical support members **16A** for moving the magnet in a vertical direction (Figure 1).

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(Source: Zuk (US PG Pubs. No. 2002/0123681), pages 2 & 3)

Zuk ('681) further teaches that the electrical motor may be mechanically coupled to the framework, thereby comprising an electromechanical device (§ 0065).

Zuk ('681) does not teach the patient support as being mounted to a frame, said frame mounted to a fulcrum at the approximate midpoint of the frame, the fulcrum operable to rotate the frame about an axis for positioning the patient. In the same field of endeavor, Weber ('109) teaches a patient support which is elongate along a first direction and slidably mounted to a fulcrum of an elevator frame, the elevator frame mounted to a carriage at its approximate midpoint, the support operable to slide relative to the elevator frame along the first direction (col. 2 lines 19-43, Figs. 2 & 3). Examiner notes that "operable to" is considered nothing more than a recitation of intended use that does not further limit the structure of the claimed invention. It would have been obvious to one of ordinary skill in the art to have modified Zuk ('681) to substitute the patient support system of Weber ('109), in order to provide for more flexibility in positioning the patient during imaging.

Regarding claims 21 and 22, Zuk ('681) teaches that the U-shaped magnet may be superconductive (§ 0021).

Regarding claims 17-20, Zuk ('681) teaches a method of using the aforementioned apparatus, which includes establishing a static magnetic field between the magnet gap of the above-noted apparatus, positioning a patient within a patient receiving space, positioning the magnetic field by vertically translating the magnet, and obtaining an MR image of the patient's anatomy (§ 0015, § 0082). Zuk ('681) provides for the use of a gradient coil, which inherently supplies a gradient magnetic field for obtaining

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the patient image (§ 0139). Zuk ('681) further teaches supporting the patient on an operating table (i.e., a patient support), while in the patient receiving space (§ 0112). Zuk ('681) provides a step for moving the magnet assembly into a position suitable for imaging a selected portion of the patient's anatomy, which implicitly teaches lowering the magnet (§ 0092). Zuk ('681) further teaches that screws may be used to mechanically couple the motor to the magnet to control motion of the magnet (§ 0065).

Zuk ('681) does not teach the patient support as being mounted to an elevator frame, the elevator frame being mounted to a carriage at the midpoint of the elevator frame, wherein the carriage moves on one or more rails along a horizontal direction. In the same field of endeavor, Weber ('109) teaches a patient support mounted to an elevator frame, the elevator frame being mounted to a carriage at the midpoint of the elevator frame, wherein the carriage moves on one or more rails 12 along a horizontal direction (col. 2 lines 19-43, Figs. 2 & 3). It would have been obvious to one of ordinary skill in the art to have modified the method of Zuk ('681) to employ the patient support of Weber ('109), in order to provide for more flexibility in positioning the patient during imaging.

4. Claims 2, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk ('681) and Weber ('109) as applied to claims 1 and 9 above, further in view of Cho (Foundations of Medical Imaging, Wiley Interscience, © 1993), hereinafter Cho (1993), previously made of record.

Zuk ('681) does not explicitly teach that the U-shaped magnet is a solenoid. It is well-known in the art to use a solenoid in situations where an electromagnet is needed, and it is also well-known that state-of-the-art MRI systems for medical imaging commonly employ solenoids as electromagnets. For example, Cho (1993) states that solenoids are commonly used in medical MR imaging systems (p. 257). Thus, it would have been obvious to one of ordinary skill in the art to create a medical imaging system according to Zuk ('681), employing a solenoid for the reference electromagnet, in view of the teachings of Cho (1993).

5. Claims 8, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk ('681) and Weber ('109) as applied to claims 5 and 9 above, further in view of Acker (US Patent No. 6,128,522), hereinafter Acker ('522).

Zuk ('681) lacks a pneumatic or hydraulic device configured to move the magnet. In the same field of endeavor, Acker ('522) teaches hydraulic and pneumatic means for positioning an MR magnet during imaging (col. 8 lines 58-67). It would have been obvious to one of ordinary skill in the art to include the pneumatic or hydraulic device of Acker ('522) as a means of moving the magnet in the system

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of Zuk ('681), as it has previously been held that the mere combination of known elements to yield predictable results is not a patentable advance over the prior art (see for precedent *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 6,414,490. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are merely broader than the conflicting claims.

8. Claims 1-22 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 6,677,753. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are merely broader than the conflicting claims.

Response to Arguments

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1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARIKHA S. MEHTA whose telephone number is (571)272-3248. The examiner can normally be reached on M-F, 8 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571.272.4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art Unit
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/Parikha S Mehta/

Examiner, Art Unit 3737